
Religious Studies and Electronic Information: A Librarian's Perspective

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ABSTRACT

THE FIELD OF RELIGIOUS STUDIES has seen an abundance of computer-based tools and publications during the last few years. Bibliographic databases, full-text databanks, and electronic Bibles are in many ways changing the face of biblical and theological studies. Librarians, according to a recent survey, see themselves as facilitators to electronic information in religion, but actual figures from theological libraries suggest that academic departments and computer centers may be competing with libraries for the right to disseminate religion-oriented electronic texts. This article surveys the broad range of electronic informational resources in religious and theological studies and discusses the impact that these tools may have on theological librarians.

INTRODUCTION

Most religion scholars on the university level use one of three approaches in their study of religion—the historical, the phenomenological, and the social-scientific or behavioral. This article, focusing as it does on the humanities, will look primarily at religious studies from a historical perspective, although this will not of necessity exclude the phenomenological or the behavioral. Theological seminaries, while including the above three approaches in their curricula, concentrate much of their efforts (in both teaching and scholarship) on the theological-philosophical implications of the historical approach to religious studies. Theology, then, is an

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integral part of the study of religion and will be included within the scope of this article.

The broad field of religious studies, encompassing such subdisciplines as biblical studies, historical religious research, and theology, has long been at the forefront of humanities computing. Hockey (1980), in her classic work on computer applications in the humanities, mentions several Bible-oriented computer projects that were in progress even as far back as the early 1960s. Biblical scholars, for reasons mostly related to their work in analyzing and concordancing ancient canonical texts, have for many years been interested in the capabilities of the computer. But it has only been in recent years, with the advent of CD-ROM and powerful (and inexpensive) microcomputers, that a broader array of religion scholars have entered the world of information technology.

The usefulness of electronic texts for religious studies is undeniable. Two areas seem especially ripe—textual criticism and literary studies of the Bible.

The field of biblical textual criticism has burgeoned with the advent of computers. In the past, the work of textual criticism was often impossibly long and tedious. Attempting to restore the original text of the Bible meant comparing thousands of ancient documents. Today the sorting and collocating capabilities of the computer enable scholars to concentrate on the intellectual work of textual criticism.

Biblical scholars who study the Bible as literature use electronic texts to amplify their understanding of the ancient writings. Computers are especially powerful in discovering patterns in grammatical constructs and finding connections among similar concepts, images, and ideas. Ancient texts are sometimes confusing to the reader who lacks historical perspective, and the electronic publication of primary and secondary source material (especially when built around a hypertext model) can often provide the necessary cultural and linguistic context (Crane, 1991).

There are many electronic religion publications in use today (Hughes, 1987b; Gould, 1988, pp. 34-39; Kraft, 1991). Most librarians are familiar with bibliographic tools like *Religion Indexes on CD-ROM*, but the parameters of this article go far beyond computerized indexes. Microcomputer-based Bibles, huge databases of ancient religious texts on CD-ROM, local databanks of morphologically oriented texts, online discussion groups, and CD-ROM publications of theological reference works are some of the other ways that electronic publishing is changing the face of religious studies.

BIBLIOGRAPHIC DATABASES

Most bibliographic databases were born as printed indexes to periodical literature, graduated to online status in the 1970s or 1980s,

and reinvented themselves as CD-ROM databases for the 1990s. Religion scholars and theological librarians sometimes use cross-disciplinary databases (such as *Dissertation Abstracts OnDisc*) and nonreligion databases (like *Philosopher's Index OnDisc*) (LaGuardia, 1991). For most bibliographic research in religion, however, the scholar or librarian can turn to one of two CD-ROM databases: *Religion Indexes on CD-ROM* or *Religious and Theological Abstracts (R & TA) on CD-ROM*.

Religion Indexes on CD-ROM, currently published by the American Theological Library Association (ATLA) under the WilsonDisc interface, is the most widely used religion bibliographic database today (Stover, 1991). While some reviewers have noted difficulties in searching certain topics (Scrimgeour, 1990, pp. 47-48), for the most part, *Religion Indexes* has received very positive reviews (Scott, 1990; Womack, 1990). One of its greatest strengths is its broad coverage of journal articles, book reviews, Festschriften, conference proceedings, and D.Min. (Doctor of Ministry) research projects. An online version is accessible through DIALOG and BRS, and a print version is available through ATLA.

R & TA on CD-ROM (formerly known as *REX on CD-ROM*) is the other major player in the religion bibliographic database arena. Published by Religious and Theological Abstracts, it does not have as large an installation base as *Religion Indexes* (Stover, 1991), but it does offer certain advantages over its competitor. *R & TA* provides useful (and indexed) abstracts for all of its articles, which cover a thirty-year period (Stover, 1989). The user interface is also in many ways easier to use than *Religion Indexes* but provides coverage of far fewer journal titles (Scrimgeour, 1990, p. 48). A print version exists, but there is no online version of *R & TA* available.

Many other indexes in religion could potentially be converted to machine-readable form, most notably the *Elenchus Bibliographicus Biblicus*, an internationally acclaimed index in biblical studies, published in Latin by the Vatican, which covers both books and journal articles. Others, such as the *Bibliographical Information Bank in Patristics* at the University of Laval, are available for dial-up access but are not yet accessible through a major network or online service (Gould, 1988, p. 35).

BIBLICAL STUDIES

The study of the Bible (including the Jewish Bible or Old Testament and the Christian New Testament) has, without a doubt, spawned the largest number of electronic publications in religious studies (Wilderotter [1991] counts fifty-five separate computer Bible projects). These publications include microcomputer-based electronic

Bibles, CD-ROM biblical reference works, databases of various translations of the Bible, and highly analyzed (grammatically, morphologically, syntactically) databases of the Bible in its original languages of Hebrew, Aramaic, and Greek. (The special difficulties of creating an encoded electronic text in Greek and Hebrew are explored in Tov, 1988; Cover, 1989; and Hughes, 1987b, chapter seven.)

Hughes (1990a) divides the world of biblical computer tools into seven categories: (1) Bible concording, (2) grammatical concording, (3) CD-ROM, (4) portable electronic Bibles, (5) Greek and Hebrew fonts, (6) machine-readable Bible texts, and (7) language-learning programs. While categories 5 and 7 are beyond the scope of this article, the other categories are relevant and will be used here as standardized nomenclature.

Recovering the Ancient Text

When we speak of the original texts of the Bible, we of course do not refer to the *Autographa*, or original autographs. What we today call the Hebrew Bible and the Greek New Testament are critical editions created by many scholars over a period of several hundred years. Using the semi-scientific rules of textual criticism, scholars have reconstructed what they believe is the earliest possible written form of the biblical text (without delving too much into the oral transmission and redaction that predates the written text). This is no mean feat, since tens of thousands of manuscripts and fragments are extant today and since many errors have been introduced into the text through scribal mistakes and theologically motivated emendations. Textual critics have been at work for centuries and have produced labors of love in collocating, identifying, and comparing ancient manuscripts in their quest for a restored original text. Computer-aided research has already brought about discoveries of errors in the finest critical editions and will undoubtedly lead to a more pristine and scientific approach to textual criticism.

The most widely accepted critical edition of the Hebrew Bible today is the *Biblia Hebraica Stuttgartensia* (*BHS*). This massive work is based primarily on Codex Leningrad of the Masoretic Text, a cantillated, punctuated, and vocalized (and sometimes emended) textual tradition compiled by Jewish scribes, called Masoretes, during the first millenium of the Common Era (C.E.) (Wurthwein, 1979, p. 12ff.). The oldest manuscript of the Masoretic Text extant today is from the 10th century C.E., although comparisons with older fragments show it to be highly accurate. *BHS* also includes a critical apparatus designed to alert the reader to textual variants. This apparatus refers to almost as many variant texts as are extant, but especially focuses on the Septuagint (a Greek translation by rabbis

in the second century B.C.E.), Aramaic Targums (ancient Jewish paraphrastic translations), the Samaritan Pentateuch, and the Dead Sea Scrolls. There are today four principal machine-readable texts of the Hebrew Bible (from which almost all other computerized Hebrew Bibles have developed); three of them are based on *BHS*, and the fourth is based directly on Codex Leningrad (Tov, 1988). *BHS* is likely to be supplanted (or at least updated) in the near future by a computer-guided critical text of the Hebrew Bible.

New Testament studies today boast of several published critical editions, but the two most commonly used are the text of the United Bible Society (UBS) and the edition prepared by Eberhard Nestle and updated by Kurt Aland (usually referred to as "Nestle-Aland"). These editions are eclectic in that they do not rely solely on one textual tradition but choose one variant over another using the tools of textual criticism. This contrasts sharply with most pre-nineteenth century textual critics (as well as the translators of the King James Version) who relied heavily on the Byzantine textual tradition (also known as the "Textus Receptus" or "Received Text"). Today's critical editions are based on a large number of extant Greek manuscripts and papyri (some dating as far back as the third and fourth centuries C.E.), but are also informed by ancient translations such as the Latin Vulgate and the Syriac Peshitta (Metzger, 1968).

Concording Programs

Microcomputer-based Bibles, or Bible concording programs, enjoy wide circulation today. Their relatively inexpensive costs have brought them into church offices, libraries, homes, and scholar's workstations. These tools are used mostly as powerful concordances with the capability to perform fairly complex Boolean searches and truncation. Most of these "e-Bibles" come bundled with search-and-retrieval software programs, which are generally fairly easy to search but lack flexibility. Text-only packages are more difficult to use but are also more flexible and allow the user to employ the same (familiar) search engine across a spectrum of text files (e.g., the Bible, Shakespeare, etc.). ASCII files can usually be created from selected texts and dumped into a separate word processing program. Most programs on the market make several different English translations of the Bible available, including the King James Version, the New International Version, and the Revised Standard Version. Many also provide the option of purchasing the biblical text in its original languages. With enough memory and the right operating system, some of these programs can window two or more screens of different translations simultaneously.

One problem with electronic biblical concordances is their lack of subject indexing. Searches must be performed using "free-text"

or "post-coordinate" terminology, and this can easily result in less than complete search results. For example, the user who searches for the idea of "endurance" in the Bible will probably miss Galatians 6:9, "And let us not be weary in well-doing: for in due season we shall reap, if we faint not." Some Bible concordancing programs have started to address this problem by including controlled vocabulary, but even so the existence of metaphors and other figures of speech will continue to baffle the biblical database searcher.

While many microcomputer Bible concordancing programs exist (Hughes, 1990a), perhaps representative of the genre are two tools published by Zondervan Electronic Publishing (a subdivision of HarperCollins). Macintosh aficionados can use MacBible (formerly the Perfect Word), an easily mastered system that can load various English translations as well as the Hebrew Bible and the Greek New Testament (Kraft, 1991, p. 28). Those who prefer IBM may use NIVpc, a complex program (not for beginners) that contains the New International Version (NIV) of the Bible and the eclectic critical Greek text used by the NIV translators (Kraft, 1991, p. 29). Other microcomputer-based Bibles available include such creative names as Compu-Bible, HyperBible, and The Word Processor. Most of these are aimed at the popular market, but serious scholars can also use them with profit.

While electronic (primarily English-based) biblical concordances are useful, they often fail to cope with the complexities of searching for lemmas (grammatical roots) in Greek and Hebrew. Grammatical concordancing programs are highly sophisticated computerized biblical texts which meet the challenges of lemmatization and cut through the morass of diacritical marks in the biblical languages. GRAMCORD, produced by the GRAMCORD Institute at Trinity Evangelical Divinity School (Deerfield, Illinois), is the premier grammatical concordancing program for the Greek New Testament (Kraft, 1991, pp. 26-27). Using a critical Greek text, it is able to

locate and display all genitive absolutes, all future participles, all articular infinitives, all first-class conditions and all masculine, plural, accusative, comparative adjectives. In addition to being able to concord whole classes of grammatical objects, GRAMCORD can concord parts of speech, simple inflections, words and complex grammatical constructions. (Hughes, 1990a, p. 66)

CD-ROM Bibles

CD-ROM Bible resources are priced somewhat higher than microcomputer-based Bibles, but they offer comparatively "more for the money." Most of these "laser Bibles" contain multiple versions of the biblical text (including original language texts), as well as theologically oriented dictionaries, encyclopedias, lexicons,

handbooks, and other full-text reference works in religion. One major drawback to most of these products is their transliteration of the original Greek and Hebrew texts into Roman characters.

While several CD-ROM Bibles have been reviewed in the literature (Stover, 1990; Allen, 1989; Bloom, 1990), the most outstanding example from this genre is CDWord (Kraft, 1991; DeRose, 1991), published by CDWord Library, Inc. and Dallas Theological Seminary. CDWord has received rave reviews in the literature (e.g., Zahavy, 1990), and these accolades are, for the most part, well deserved. It operates under a Microsoft Windows environment and in many ways is a veritable "Biblical Memex" with almost all of the tools necessary to do both scholarly and nonscholarly biblical research.

One of the distinctive qualities of CDWord is its use of scholarly full-text materials. While the other CD-ROM Bible resources on the market include a large number of research tools, they are, for the most part, outdated and/or of marginal significance for modern scholarship. While some of CDWord's reference sources could be described as "popular," most are scholarly and geared toward those with at least a working knowledge of New Testament Greek. The producers of CDWord have not allowed the lure of public domain (and thus free of cost) texts to draw them into what might have been the publication of an inferior product. Instead, they have insisted on including high quality and up-to-date reference sources, including Bauer's *Greek-English Lexicon of the New Testament* (University of Chicago Press, 1979), *An Intermediate Greek-English Lexicon* by Liddell and Scott (Clarendon Press), Kittel's *Theological Dictionary of the New Testament* (Eerdmans, 1985), and *Harper's Bible Dictionary* (Harper & Row, 1986). The Greek texts used are *Novum Testamentum Graece* (the Nestle-Aland Greek New Testament, 26th edition with diacritics but no critical apparatus) and Rahlfs's *Septuaginta*. The English translations include the King James Version (public domain), the Revised Standard Version (National Council of Churches), the New American Standard Bible (Lockman Foundation), and the New International Version (International Bible Society). Each Greek word in the New Testament is fully parsed so that grammatical information (lemmatization and morphological analysis) can be accessed simply by clicking on a word in the text. Hypertext links (placed thoughtfully throughout the database) allow instantaneous cross-referencing among the various reference sources and biblical texts, and even maps of the ancient world and other graphics are included. For the most part, CDWord is a model design for all others to follow.

Portable Electronic Bibles

Hand-held electronic Bibles are a recent phenomenon, but their usefulness within the library environment is questionable. Both

Franklin Computers and Zondervan Electronic Publishing produce these gadgets (Hughes, 1990a), and Sony is likely to make a portable electronic Bible available in the near future in conjunction with its Data Discman Electronic Book Player. While library use of these novelty items at the present time is doubtful, they may very well become the future prototype of the electronic book.

Machine-Readable Biblical Texts

Machine-readable biblical texts are stored in large databanks at academic computing centers throughout the world. These texts range from simple ASCII versions of an English translation to highly sophisticated, morphologically analyzed Hebrew and Greek texts. Two of the largest and most important databanks of biblical electronic texts are at Oxford University Computing Services and at the Center for the Computer Analysis of Texts at the University of Pennsylvania (Hughes, 1990a, p. 66). Wilderotter (1991) gives a nearly exhaustive listing of worldwide biblical text databanks as well as commercially available products. Most of these computerized Bible texts can be accessed in various ways, including Internet access; online dial-up access; distribution by diskette, tape, or CD-ROM; and local access.

JEWISH STUDIES

Although many electronic publications under this heading also contain biblical texts, there is enough uniquely Jewish (primarily rabbinic) material to require a separate section. Perhaps the most ambitious project in computerized Jewish studies is the Global Jewish Database/Responsa Project at Bar-Ilan University in Israel (Hughes, 1987a). Initially funded as a database for rabbinic Responsa (questions and answers in Judaism), today it has become a gigantic computerized repository for Jewish life and culture. It includes not only 50,000 Responsa covering over thirteen centuries, but also the cantillated and vocalized Hebrew Scriptures, the Talmud, Midrashic literature, almost all of the medieval Jewish commentaries, and many works of modern Jewish literature, law, rabbinics, and philosophy. The database can be searched online (direct dial-up), but subscription fees and telecommunications charges may make the service prohibitive for individuals.

Several CD-ROM and microcomputer-based electronic texts are available for the Judaica scholar, although most of these concentrate on the Hebrew Bible. One notable exception is a CD-ROM called the *Computerised Torah Treasure*, published by Machon Otzar HaTorah HaMemuchshav in Israel (Zahavy, 1990). Along with the Tanakh (Hebrew Bible), it also contains much of the important rabbinic literature including the Talmud (Mishnah, Tosefta, Talmud

Bavli, and Talmud Yerushalmi) and several medieval rabbinic codes and commentaries.

Many other electronic publications for Jewish studies exist, mostly unpublished research at academic computing databanks (see Lowry, 1990, pp. 16-17 for a discussion of the differences between published and unpublished electronic texts). A major project under the auspices of Johns Hopkins University and Hebrew Union College is the Comprehensive Aramaic Lexicon, which (when completed) will include all extant Aramaic texts (small portions of the Bible, much of the Talmud, and all of the targumic literature). While the ultimate goal of the project is to create a multivolume printed series, the machine-readable texts will always be available for searching by qualified scholars. Similar projects (Cohen, 1988; Charlesworth, personal communication, March 27, 1991) are underway at Princeton University (with the Cairo Geniza texts) and at Princeton Theological Seminary (with the Dead Sea Scrolls).

CLASSICAL AND PATRISTIC STUDIES

Classical studies include the languages, literatures, and cultures of ancient Greece and Rome, usually ending around the 5th century C.E. This discipline is closely related to religious studies primarily due to the influence of the Greek language upon both the New Testament and the Septuagint. Studying ancient civilizations also provides context for the study of the Bible.

Another related area of religious studies is patristics. Patristics refers to the theological writings of the "Fathers" (Christian theologians writing in either Greek or Latin during the first eight centuries of the Common Era). Patristic studies give us insight into how the doctrines of early Christianity (and to a lesser degree the medieval church) were developed and codified.

The *Thesaurus Linguae Graecae Project (TLG)* has been, since its inception, a revolutionary tool for classical studies (Brunner, 1988; Hughes, 1987c). The project was begun and continues to be led by Theodore Brunner at the University of California, Irvine. *TLG* attempts, with great success, to compile all extant Greek texts up through the 6th century C.E. Searches for similarities in sentence structure and matching word variants that would have taken "numerous lifetimes" (Brunner, 1988, p. 7) in the past, today take only a matter of minutes. Many self-confessed computer illiterates in classical studies have become first awed by, and then enamored with, *TLG*, and it is becoming the research tool of choice among classical scholars.

The *TLG* disk is licensed to both individuals and institutions over a period of years. For example, the present institutional license

for a single user *TLG* disk is \$850 for five years (Brunner, 1991a). While *TLG* was originally designed to run on the specially designed Ibycus computer workstation, recently several different software developers have written search and retrieval packages for *TLG* to run on both IBM and Macintosh platforms. The installation base of *TLG* appears to be relatively strong. In September 1991, there were almost 700 *TLG* disks in circulation worldwide (Brunner, 1991b). The percentage of these disks in theological libraries is apparently fairly small (Stover, 1991).

Another important project for classical studies has been undertaken by the Packard Humanities Institute (PHI) in Los Altos, California. PHI currently offers two CD-ROM disks for licensing. PHI Disc 5.3 contains all of the Latin literature up to 200 C.E. as well as a large number of biblical texts (unanalyzed) including the Hebrew Bible, the Septuagint, the Greek New Testament, the Latin Vulgate, and ancient biblical versions in Coptic, Armenian, and Aramaic. PHI Disc 6 contains 87,000 Greek inscriptions (prepared primarily at Cornell University) and 32,000 Greek documentary papyri (a project completed under the auspices of Duke University). The licensing costs for these disks are extraordinarily low: each disk can be licensed (on an annual basis) for \$40 or both for \$60. The PHI disks do not come bundled with a search engine, but (like *TLG*) can be accessed by a variety of search-and-retrieval software programs.

Yet another system with importance for classics scholars is the Perseus Project (Hughes, 1990b, pp. 33-38; Crane & Mylonas, 1991). Developed by Gregory Crane and others at Harvard University, it is essentially a very large text and image database of classical Greece running under Hypercard. Encoded with SGML (Standard Generalized Markup Language) codes, the texts in the Perseus database include three categories—translations (into English) of Greek texts, the Greek texts themselves (with a Greek-English lexicon), and background materials (including thousands of images) that provide context for studying Greek civilization. The complete Perseus package (CD-ROM and videodisk) is currently available from Yale University Press for \$350. The CD-ROM alone sells for \$150.

In the field of patristics, two major electronic publications have recently been announced. Chadwyck-Healey is marketing the Patrologia Latina Database, a high-priced machine-readable version of Migne's Patrologia Latina, a nineteenth-century critical edition of the Latin fathers. The Belgian publisher Brepols will publish on CD-ROM the Cetedoc Library of Christian Latin Texts, a less expensive database containing more recent texts than Migne (see the article by Edward Shreeves in this issue of *Library Trends* for a more complete discussion of these Latin databases).

Another important undertaking in patristics is the Bibliographical Information Base in Patristics at the Universite Laval in Quebec. This unpublished databank, built through collaborative efforts by patristics scholars worldwide, contains the complete indexing of the patristic content of over 300 journals and over 20,000 analyzed references to the Latin fathers. CD-ROM would be an ideal distribution method for this database, but at the present time it remains a local project.

OTHER ELECTRONIC PUBLICATIONS

A variety of other electronic publications in religion are available, mostly on CD-ROM. The Krishnamurti Text Collection (EPI-Centre, 1991) contains about 21,000 pages of text from the writings of Jiddu Krishnamurti, a teacher on spiritual issues in the Hindu tradition. It is published on CD-ROM by EPI-Centre, a division of BRS Software Products.

The Published Writings of Ellen G. White on Compact Disc contains, as might be expected from the title, the complete works of Ellen White, the founder of the Seventh-Day Adventist Church (Graybill, 1990). White's prolific work includes more than 100 books, 160 pamphlets, 5,000 magazine articles, and 1,400 manuscripts. Published by the Ellen G. White Estate, the disk also offers extensive biographical works about White as well as the King James Version of the Bible.

The Islamic Computing Centre in London has created two databases for Islamic studies—a Koran database and a series of "al-hadith" databases (hadith are Islamic traditions usually attributed to the prophet Muhammad). Since the databases consist of public domain English translations, they have limited usefulness for scholars or researchers (Finnegan, 1992). However, these projects are probably the first step in provoking a more scholarly set of Islamic electronic texts.

The Library of the Future, published on CD-ROM by the World Library, Inc., contains hundreds of classic works (all public domain English versions) of literature, history, and philosophy. Among the titles that could be considered religious documents are the *Egyptian Book of the Dead*, the *Bhagavad Gita*, the *Life and Teachings of Buddha*, selected writings of Confucius, Augustine's *Confessions*, the Book of Mormon, and English translations of the Bible and the Koran.

Most works of medieval philosophy have strong religious undercurrents, primarily because of the powerful influence of the church on almost all aspects of life during the Middle Ages. Peter Abelard and Saint Anselm of Canterbury are two medieval philosophers whose writings (in the original Latin) have been

converted to machine-readable form by the Literary and Linguistic Computing Center at the University of Cambridge.

There are a growing number of online discussion groups and electronic newsletters in religion, most of which are available at no charge on Internet or Bitnet. Some of these include discussions of humanities computing (<humanist@brownvm>), Judaism in the Greco-Roman world (<ioudaios@yorkvml>), North American Buddhist studies (INDRANET located at <jamiehubbard@smith>), Indian and Buddhist studies (<buddhist@jpntohok>), Renaissance and Reformation (<ficino@utoronto>), personal ideologies (<belief-l@brownvm>), Judaic studies (<judaica@uminnl>), and comparative and world religions (<religion@harvarda>). A few of these are peered electronic newsletters, but most are wide-ranging "anything goes" discussion groups.

A different kind of electronic newsletter is *OFFLINE*, edited by Robert Kraft at the University of Pennsylvania and distributed through various electronic and print media. *OFFLINE* deals primarily with computer issues in biblical studies but occasionally discusses other religion-related topics. Although not an official organ of the Society of Biblical Literature (SBL), *OFFLINE* serves as the de facto electronic communiqué for SBL's Computer Assisted Research Group.

LIBRARY ISSUES

This article has demonstrated that many electronic publications exist for both the scholarly and popular study of religion. Yet the question of domain continues to confront librarians. Where should these resources live? Who should take care of them? Many librarians believe that the answer is simple: libraries and librarians should continue to facilitate access to information whether printed or electronic.

Computer-aided biblical studies provide a test case for the domain question. Can librarians continue to offer the same service for electronic resources in biblical studies as they have in the past for printed materials? To help answer this question, a survey (see Appendix) of electronic tools in theological libraries was sent to 182 North American member libraries of the American Theological Library Association (ATLA). There were ninety-two responses received. While the survey was not meant to be a scientific instrument, this author believes that it does accurately measure the attitudes of theological librarians toward computer-aided biblical research. It should be noted, however, that the makeup of the ATLA membership may have somewhat skewed the survey results. While some ATLA member libraries are affiliated with strong research institutions, many

others are small seminary libraries with anemic materials budgets. Thus a survey of ATLA libraries should not expect to find the same level of research support as one would find in a survey of members of the Association of Research Libraries. Yet even small seminaries are expected to provide graduate-level education, and a weak library budget should not be an excuse for uninformed or irresponsible collection development.

While almost two-thirds of the survey respondents provide access to a religion-oriented bibliographic database on CD-ROM, only about one-third own any kind of electronic Bible text. This is surprising in light of the low cost of many of the microcomputer-based Bible software programs on the market (most of which can be purchased for less than \$100). The relatively low ratio of electronic Bibles to libraries also seems to be contradicted by the answer to another question on the survey. When asked, Which do you consider to be the most appropriate domain of computer-aided research in biblical or religious studies?, seventy-eight responded "Library," seven responded "Computer Center," and nine responded "Other" (some marked more than one choice).

Another portion of the survey allowed librarians to elaborate on the role of theological libraries in the implementation of computer-aided research and electronic information. The overwhelming majority of respondents were optimistic in their predictions. However, many also seemed to be aware of the pitfalls involved (including high costs, standardization problems, training issues, etc.). Theological librarians, on the whole, seem ready and eager to pursue the idea of providing access to electronic publications. In practice, however, they have been relatively slow in implementing electronic resources.

Some nonlibrarians believe that electronic publications in biblical studies *do* belong in libraries (Kraft, 1989; Kerr, 1990, pp. 35-37). Many others, however, seem to bypass libraries in their pursuit of electronic information. Some scholars may feel that librarians do not have enough knowledge of the intricacies of the biblical languages to assist in computer-aided studies of the Bible. Others probably have not thought about the implications inherent in the library domain question (centralization of resources, the specialized training of librarians to perform database searching, etc.), and simply use electronic resources wherever they are provided. In the end, it does not really matter *why* librarians are ignored in this process. The bottom line will always be this: whoever provides the information—whether it is a library, a computer center, or an academic department—will be perceived as the primary facilitator of access to that information. If a library fails to keep pace with technological

advances, even if it is a small seminary library with inadequate funding, it will lose its place (perceived or real) as the primary information provider.

CONCLUSION

The written word has for centuries played an important role in religious studies, primarily because of its significance in transmitting theological constructs and the faith of religious communities. The scroll, the codex, and, finally, the printed book each succeeded in bringing knowledge and understanding to the adherents of various religions as well as to those who studied these religions. The electronic word is simply another step forward in the evolution of religious and theological communication.

Yet forward steps may not have completely linear implications. Mullins (1990) shows that electronic Bibles (especially of the hypertext variety) reflect broader cultural changes in society. Fragmented, relativized, and changeable, the computerized text symbolizes the antithesis of the printed word. When sacred text becomes hypertext, the postmodernist vision of a world without absolutes creeps closer to reality. Electronic documents in a very real sense undermine the static nature of the canonical "word," but they also allow for a personal interaction with the text that previously was not available. These observations are meaningful for the philosopher and the cultural critic, but they also send a message to the theological librarian—i.e., the world is rapidly changing, and those who do not change with it eventually lose their relevance to society.

APPENDIX**Survey of Electronic Tools in Theological Libraries**

- (1) Does your library have an online public access catalog?
- (2) Is your library connected electronically with an institutional computer center?
- (3) Please list the CD-ROM databases that you own or lease:
- (4) Does your library own any Bible study computer aids (such as Thesaurus Linguae Graecae, CDWord, MacBible, etc.)? If so, please list:
- (5) Do you make these Bible study computer aids available to the public, or do you limit their use (to faculty, etc.)?
- (6) Do you make available any multi-lingual (especially Hebrew and Greek) word processing programs for student or faculty use? If so, which program(s)?
- (7) Is computer-aided research in theology or Biblical studies a major part of the work of any of the faculty at your institution?
- (8) Which do you consider to be the most appropriate domain of computer-aided research in Biblical or religious studies?
☐ Library
☐ Computer Center
☐ Other
- (9) Do you believe that computers and electronic publications will play an important role in the future of the theological library? Please elaborate.

REFERENCES

- Bloom, J. (1990). Master Search Bible. *CD-ROM Librarian*, (April), 39-41.
- Brunner, T. F. (1988). Overcoming "Verzettlung": A humanistic discipline meets the computer. *Humanities*, 9(3), 3-7.
- Brunner, T. F. (1991a). New CD ROM pricing policy. *Thesaurus Linguae Graecae Newsletter*, (19), 2.
- Brunner, T. F. (1991b). CD ROM distribution. *Thesaurus Linguae Graecae Newsletter*, (19), 2.
- Cohen, M. R. (1988). Old sources, new technology: Princeton University's Geniza Computer Project. *Middle East Studies Association Bulletin*, 22(1), 1-7.
- Cover, R. C. (1989). *Special challenges for the encoding of religious texts*. Unpublished Technical Report, TEI Text Representation Subcommittee.
- Crane, G., & Mylonas, E. (1991). Ancient materials, modern media: Shaping the study of classics with hypermedia. In P. Delany & G.P. Landow (Eds.), *Hypermedia and literary studies* (pp. 205-220). Cambridge, MA: Massachusetts Institute of Technology.
- DeRose, S. J. (1991). Biblical studies and hypertext. In P. Delany & G. P. Landow (Eds.), *Hypermedia and literary studies* (pp. 185-204). Cambridge, MA: Massachusetts Institute of Technology.
- EPI-Centre. (1991). EPI-Centre announces three new CD-ROMs. *Information Today*, 8(October), 26.
- Finnegan, G. (1992). Islamic Computing Centre, London. *PACS-L Discussion Group*, (January 7) from <pacs-l@uhupvm1>.
- Gould, C. C. (1988). *Information needs in the humanities: An assessment*. Stanford, CA: Research Libraries Group.
- Graybill, R. D. (1990). The published writings of Ellen G. White. *CD-ROM EndUser*, 2(8/9), 56-58.
- Hockey, S. (1980). *A guide to computer applications in the humanities*. Baltimore, MD: The Johns Hopkins University Press.
- Hughes, J. J. (1987a). From Torah to Talmud to today: Responsa Project/Global Jewish Database. *Bits and Bytes Review*, 1(7), 7-12.
- Hughes, J. J. (1987b). *Bits, bytes, and Biblical studies*. Grand Rapids, MI: Zondervan.
- Hughes, J. J. (1987c). From Homer to Hesychius: The Thesaurus Linguae Graecae project. *Bits and Bytes Review*, 1(7), 1-6.
- Hughes, J. J. (1990a). Computers and the Bible. *Biblical Archaeology Review*, 16(6), 62-68.
- Hughes, J. J. (1990b). Beyond word processing. In B. R. Gaventa (Ed.), *Critical review of books in religion 1990* (pp. 1-42). Atlanta, GA: Scholars Press.
- Kerr, E. L. (1990). *Technology and the seminary*. Philadelphia, PA: Center for the Application of Technology to Biblical and Theological Education (CATBE), Westminster Theological Seminary.
- Kraft, R. (1989). OFFLINE 24. *Bulletin of the Council of Societies for the Study of Religion*, 18(4), 101-104.
- Kraft, R. (1991). Biblical studies. In I. Lancashire (Ed.), *The Humanities Computing Yearbook 1989-1990* (pp. 18-31). Oxford, England: Clarendon Press.
- LaGuardia, C. (1991). Philosopher's Index OnDisc. *CD-ROM Professional*, 4(6), 119-120.
- Lowry, A. (1990). Machine-readable texts in the academic library: The electronic text service at Columbia University. In C. C. Gould (Ed.), *Computer files and the research library* (pp. 15-23). Mountain View, CA: Research Libraries Group.
- Metzger, B. M. (1968). *The text of the New Testament: Its transmission, corruption, and restoration*, 2d ed. New York: Oxford University Press.
- Mullins, P. (1990). Sacred text in an electronic age. *Biblical Theology Bulletin*, 20(Fall), 99-106.
- Scott, R. H. (1990). Selected reference books of 1989-1990 (religion). *College & Research Libraries*, 51(5), 431-432.

- Scrimgeour, A. D. (1990). The computer as a tool for research and communication in religious studies. In B. R. Gaventa (Ed.), *Critical review of books in religion 1990* (pp. 45-56). Atlanta, GA: Scholars Press.
- Stover, M. (1989). REX on CD-ROM. *CD-ROM Librarian*, (February), 17-20.
- Stover, M. (1990). Optical Bibles: A review of three Bible concordances and full-text theological reference sources on CD-ROM. *Laserdisk Professional*, 3(1), 56-60.
- Stover, M. (1991). *Survey of electronic tools in theological libraries*. Unpublished survey sent out to 182 member libraries of the American Theological Library Association.
- Tov, E. (1988). Computers and the Bible. *Bible Review*, 4(February), 38-42.
- Wilderotter, J. A. (1991). *Electronic Bibles and electronic texts in biblical studies*. Washington, DC: Center for Text and Technology, Georgetown University.
- Womack, A. (1990). Religion indexes on CD-ROM: A review. *CD-ROM Professional*, 3(4), 84-87.
- Wurthwein, E. (1979). *The text of the Old Testament*. Grand Rapids, MI: Eerdmans Publishing Company.
- Zahavy, T. (1990). CD-ROM religious resources: Rabbinic literature and the Bible. *CD-ROM EndUser*, 2(8/9), 50-55.